

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#12
10-14-07

In re application of:) Group Art Unit: 3404
Claudio BOFFITO et al) Examiner:
Serial No. 08/675,969)
Filed: July 5, 1996)
For: THERMALLY INSULATING)
JACKET AND RELATED)
PROCESS)

THIRD SUPPLEMENTAL DECLARATION

CLAUDIO BOFFITO, ANTONIO SCHIABEL and ALESSANDRO GALLITOGNOTTA, being duly advised, hereby declare as follows:

Our residence, post office address and citizenship are as stated below next to our names

We believe that we are the original, first and joint inventors of the subject matter which is claimed and for which a reissue patent is sought on an invention entitled "Thermally Insulating Jacket and Related Process", which original Letters Patent was granted to us on April 25, 1995, under U.S. Patent No. 5,408,832.

We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims thereof, as now presented.

We acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, C.F.R. §1.56(a).

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We do not know and do not believe that the claimed invention was ever known or used in the United States before our invention thereof, or patented or described in any printed publication in any country before our invention thereof, or more than one year prior to this application, and that the same was not in public use or on sale in the United States of America more than one year prior to this or our original application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of our issued patent in any country foreign to the United States of America on an application filed by us or our legal representatives or assigns more than twelve months prior to the application on which said patent is based.

Applicants verily believe the original patent to be wholly or partially inoperative by reason of the patentees' claiming less than they had a right to claim in the patent, because all of the apparatus claims are limited to particular getter materials and particular actuations of such materials and do not affirmatively recite Applicants' new and nonobvious physical structure and the process by which such structure functions.

Specifically, apparatus claim 18, the broadest apparatus claim, specifies particular materials for absorbing water vapor versus other gases present in the claimed insulating jacket with specific requirements for particular moisture sorbing material selected from the group consisting of barium oxide, strontium oxide, phosphorous oxide, and mixtures thereof

and a getter material of an alloy having the formula BaLi₄. Apparatus claim 18 does not specify any particular mechanical arrangement of the drying agent and getter arranged in a container and subdivided into an inner and outer zone by a porous septum of the type disclosed in Figure 3 and in the specification of the patent at Column 5, lines 49-56.

As originally filed, the claims of the application which matured into the incident patent did not clearly distinguish between a process of evacuating and maintaining a vacuum in a thermally insulating jacket and the resulting insulating jacket. Applicants, through their Assignee's patent agent at the time, Dr. Ciocca, attempted to instruct their U.S. patent counsel, Mr. David Murphy, to add somewhat more appropriate apparatus claims. However, U.S. patent counsel appears not to have understood these instructions at the time they were sent, and Dr. Ciocca left his job with the Assignee before he had an opportunity to clarify his instructions. Further compounding this error, Mr. Murphy advised the Assignee's new Italian patent counsel that the process claims which issued in the patent were equivalent to Dr. Ciocca's proposed apparatus claims. This representation, too, was error. The confusion between Dr. Ciocca and Mr. Murphy appears to have caused the error in the issued patent. However, this error arose without any deceptive intent on the part of the Applicants.

The Applicants are citizens of Italy, not fully versed in the English language, do not have a detailed understanding of the differences among statutory classifications of inventions under U.S. law, and did not understand the confusion that occurred among their legal representatives. Applicants first had the opportunity to review the subject matter of the claims of their issued patent subsequent to the issuance of the patent. It was only at this time, with the assistance of new U.S. and Italian patent counsel, that it was discovered that process Claim 8 should have been an independent apparatus claim that recited the physical structure shown in Figure 3 in the apparatus disclosed in the patent. The Applicants always intended to claim such an apparatus. The Applicants seek to correct this failure to properly claim the apparatus of the present invention by adding new apparatus Claim 24 which is attached as an annex to this declaration.

Further, Applicants verily believe the original patent to be wholly or partially inoperative by reason of the patentees' claiming less than they had a right to claim in the patent because Claim 1 is limited to moisture sorbing materials having a H_2O vapor pressure lower than 1 Pa at room temperature, that the vacuum in the insulating jacket have a pressure less than 100 Pa, and that the getter material be inactive prior to exposure to the vacuum. However, the specification states that the getter of the present invention works better if the sorbed gas does not contain water even when the getter is activated. It is for this reason that the gas is first contacted

with the drying agent and that the getter is placed in a separate zone. Column 5, lines 42-47. The specification discloses that this result can be achieved by placing the drying agent and getter in a container or package which is then placed in a jacket or compartment. The jacket is then filled partially or completely with insulation and evacuated in the manner described in the specification in column 4, lines 45-57. As issued, process Claim 1 does not claim this advantageous feature of the invention, but rather is limited to other features of the preferred embodiment.

At the time of filing the application, as well as at the present time of filing, Applicants were aware that the mechanical combination of a moisture absorber and getter had broad applicability to insulating jackets. Applicants apparently so informed their company's patent liaison at that time, Mr. Storey. Subsequent to receiving this explanation, however, Mr. Storey left his job with the Assignee, and it appears that his replacement, Dr. Ciocca, did not immediately appreciate its significance. This was error. Moreover, the error was compounded by the fact that the importance of this process was apparently not explained at all to Mr. Murphy, the assignee's U.S. patent counsel, who apparently drafted claim 1, the only independent process claim in the patent. While this was error, it arose without any deceptive intention on the part of Applicants.

The Applicants are citizens of Italy, not fully versed in the English language, and did not understand the confusion that occurred among their legal representatives. Applicants first had the opportunity to review the subject matter of the claims of their issued patent subsequent to the issuance of the patent. It was only at this time, with the assistance of new U.S. and Italian patent counsel, that it was discovered that one of the key processes of the operation of their invention had not been claimed. The applicants seek to correct this error by presenting claim 25 which is attached as an annex to this declaration.

The undersigned also aver that, as Applicants for a reissue patent, they have reviewed and understand the contents of the specification, including the claims, as amended herein to add the claims attached as an annex to this declaration, that they believe themselves to be the original and first inventors of the subject matter which is claimed and for which a patent is sought, and that they acknowledge a duty to disclose to the Patent Office all information known to them to be material to patentability.

We hereby declare that all statements herein of our own knowledge are true and that all statements herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: July 2, 1997

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ANNEX

24. A thermal insulation jacket, comprising:

an inner wall and an outer wall that define an inner space that can be evacuated so as to form a vacuum;

an insulating material filling the inner space between the inner and outer walls;

the inner space including a getter that is able to absorb both water vapor and at least a second type of gas or vapor from the inner space;

the inner space also including a water sorbing material for sorbing the water vapor;

a container for the getter and water sorbing material positioned in the inner space, the container being divided into inner and outer zones and being made of a material that is water-free,

the getter being positioned in the inner zone of the container and the water absorber filling the outer zone of the container;

the outer zone of the container communicating with both the inner space and with the inner zone of the container and the inner zone of the container communicating with only the outer zone of the container so that the water absorber prevents water vapor in the inner space from reaching the getter.

25. A method for producing a thermally insulating jacket, comprising:

evacuating an inner space defined by inner and outer walls to form a vacuum;

filling an inner space of the jacket with insulating material, the inner space being defined by an inner wall and an outer wall;

providing for absorbing both water vapor and at least a second type of gas or vapor from the inner space with a getter;

providing for sorbing water vapor with a water sorbing material;

positioning the getter and water sorbing material in the inner space in a container that is impervious to water vapor,

subdividing the container into an inner zone and an outer zone, the getter being positioned in the inner zone of the container and the water absorber filling the outer zone of the container;

placing the outer zone of the container in communication with both the inner space and the inner zone of the container, and placing the inner zone of the container in communication with only the outer zone of the container so that the water absorber in the outer zone prevents the water vapor from reaching the getter;

evacuating the inner space to a predetermined level of pressure; and

sealing the inner space with the container therein so that the water absorber continues sorbing the water vapor and the getter continues absorbing the second gas or vapor.